1859 PUBLISHED WEEKLY 1920

MANUFACTURING. DISTRIBUTION

COMMERCIAL INDUSTRIAL

AMERICAN GAS ENGINEERING JOURNAL

FORMERLY

AMERICAN GAS LIGHT JOURNAL

VOL. CXIII., No. 24
WHOLE No. 3275

NEW YORK, SATURDAY, DECEMBER 11, 1920

Subscription $3 per year
$4 Canada $5 Foreign

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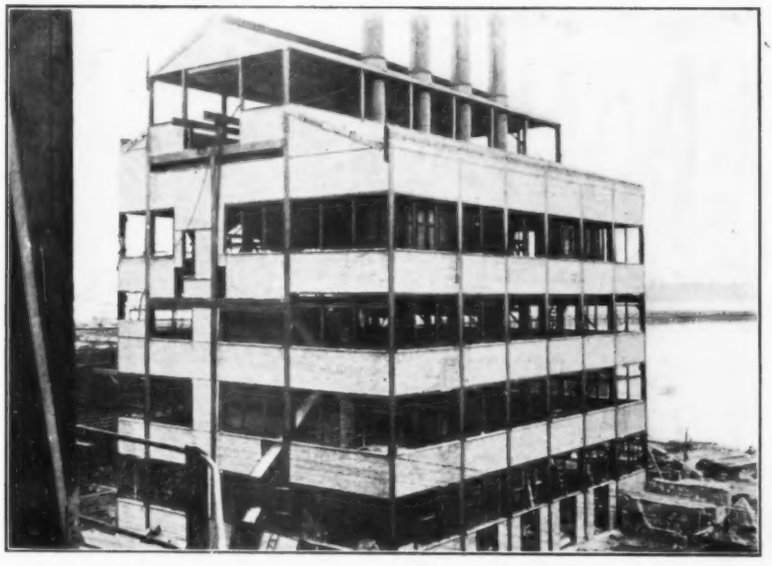

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NEW YORK

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Sell The STORAGE

type automatic water heater. It saves a meter. It saves a service. It does not burden your main. It delivers hot water as fast as the cold water flows.

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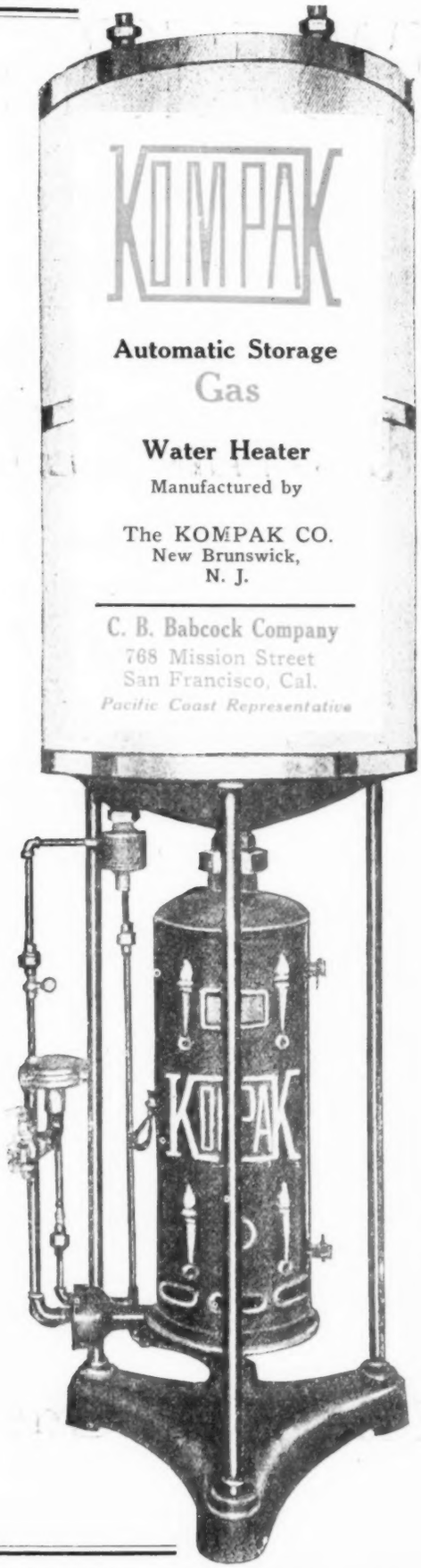
Ten thousand Kompak users are storage boosters. Three hundred gas companies are selling Kompaks. Several of the largest gas companies are selling Kompaks exclusively. Should the Kompak pilot go out it will automatically shut off all gas to the heater.



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AMERICAN GAS ENGINEERING JOURNAL. Dec. 11, 1920. Vol. CXIII, No. 24. Published Weekly by American Gas Light Journal, Inc., New York, N. Y. Subscription Price $3 per Year; $4 Canada; $5 Foreign.
Entered as second-class matter January 9, 1917, at the post-office at New York, N. Y., under the Act of March 8, 1879.

American
Gas Engineering Journal

FORMERLY THE AMERICAN GAS LIGHT JOU RNAL

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Municipal Ownership a Menace that Must Be Overcome for the Good of the Gas Industry, Says Writer

There Are Forty-three Municipally Operated Companies in the United States—Politics a Great Obstacle to Success of Scheme

By JOHN WALTER

Municipal ownership has been like a fly bothering a huge giant. Of its own weight the fly never could overcome the giant, but the giant with one clap of his hand could crush the fly if he could come close enough. Now the giant, suppose, is a competent being and doing good work in his sphere. But the fly comes buzzing around, and buzzing around, until the giant, in desperation, is forced to quit. He has been worried to the point of exhaustion. The fly doesn't care what he has disorganized; he is living just to worry the plodder. When the plodder caves in the fly is jubilant.

Swat the fly!

Forty-Three Municipal Companies

In the United States to-day, according to statistics furnished by the American Gas Association, there are forty-three cities operating public utilities on the municipal ownership basis. According to the best informatoin obtainable in practically all of these cities, the rates in gas have jumped out of all proportion, and the very aim of municipal ownership has been defeated.

Municipal ownership was established for the purpose of selling the production of public utilities to the consumer at a little more than cost. The aim was to improve service wherever possible, and make the city a sort of Utopia. Nothing, the theory was, could go wrong.

The theory was excellent, but too ideal. It cannot work out. It never will.

The gas companies are organized business. The employees of the gas companies, minor and major, have a distinct head to report to. If anything goes wrong, if the books do not show the profit that should be guaranteed by the investment, the hard-headed business men at the helm of the business will soon see that the errors causing the leak are caulked.

With municipal ownership things, it has been shown by experience, are different.

The employees are there without any interest in the trade they are following. They are civil employees, and have not the proper incentive to look ahead. All they want to do is to hold their places.

Politics an Obstacle

Politics form a great obstacle. For instance, here is an old politician who has done great service in the past for the party at present in power. He has to be rewarded. Does he know anything about the gas business. No, but he has done great service.

Experience has shown that this class of man is given a sinecure, as head of a public utility, the business of which he has no knowledge.

At the end of the mayor's term he loses his "pension" and another "heeler," equally incompetent, supersedes him.

These changes come with each new administration. Even suppose that one mayor does feel that a man who knows the business should be appointed to direct the business of the utility. His successor will not have the same idea.

Cannot Succeed

Thus municipal ownership can never be a success. It cannot be until the human element is eliminated That will not come during this century, and probably not until the millennium.

The president of the board of directors of one of the largest gas companies in the United States said recently:

"Despite what is said, I love my city. I would hate to see it victimized for the sake of a few politicians who are playing on the sympathies of the people. The cities must be protected, and it devolves upon all men interested in every kind of public utility to start propaganda against this most vicious thing, municipal ownership.

Aims Not Practical

"The aims of municipal ownership are not practical. It would be criminal to permit the people of any city to accept municipal ownership without knowing what it is all about.

"Take the gas industry, for example. There are no superfluous employees in it. Thus the stockholders are protected against waste, and the consumers are protected, because they do not have to pay for the product plus unnecessary payrolls.

"There is no city in the world that could operate public utilities at less expense than they are being run under private ownership to-day. As a matter of fact, everyone to-day knows that the gas companies need a higher rate for their product, not to pay greater profits, but to put their companies on a solvent basis.

"What would the cities do in a case like this. The high salaries would not be taken away from the incompetent directors. Instead, experts would be called into a conference, and they would be paid high fees. That burden would have to be paid by the entire city, whether they were extensive users of gas or not.

"The tax rate would be ever increasing. The gas plant would deteriorate.

Would Return to Private Ownership

"And mark what I am telling you. The city, after the ruin had been complete, would return again to private ownership."

Now this president has a powerful argument. Municipal ownership would ruin the utility, and the city in the long run would be crying for the private ownership again. An example of this on a large scale is the railroad situation.

The havoc created all over the country by the railroad board will take years to undo. It already has cost the people of this country many millions of dollars, and it will cost them many additional millions before things are entirely straightened out.

A Startling Example

A certain city of more than 40,000 population in New York came under the spell of municipal ownership. Soon as the city began to operate the gas plants, rates dropped as per schedule, and everything was excellent. The people were satisfied and even jubilant.

But that was for the first year. Then came the second year. Rates jumped and taxes increased. After having tasted of the sweet low rates, the consumers became bitter when under the ideal condition of municipal ownership they had to pay for the product higher than ever before.

Here is the reason. When the city began operations it did not make any provision for deterioration. The plant was kept running at cost, and no money was laid aside.

Naturally, when equipment was needed the consumer had to pay. And he had to pay high for the experiment of municipal ownership.

Taxpayer Hit Also

After the consumer paid, the taxpayer was called upon to do his bit. Through some foolish error, there had been no provision made to make up the deficit caused when the revenue paid by the privately owned gas companies for street rights and property taxes was abolished.

There was a source of revenue that had once been clear profit to the city. When the city took over the gas plant, it not only lost this clear profit, but it lost, too, a source of revenue that should have aided in maintaining its own plant.

Thus, when it was found that new equipment was needed, and the higher rate paid by the consumer could not pay for it, then taxpayers were lined up. The taxes on their homes and places of business jumped, and jumped so high that to-day these same people who were clamoring for municipal ownership, are pleading for private ownership of the gas company.

Why should not the gas companies get together, now, and swat the fly. Flies, although they are of no use to the world, according to the declarations of scientists, have a way of increasing, and increasing rapidly.

Don't let this municipal ownership fly increase just because we are too lazy to swat it. Swat it with propaganda. Swat it by letting the public know something about your business as suggested by an editorial last week in this paper.

My advice to presidents and publicity men of the various gas companies is to set aside a gas company day in each city. Make it a national affair if possible, but if that cannot be arranged, at least have an exhibition in your own city.

Throw the plant wide open. Let the people see how the product is made. Explain to them the different steps in its manufacture. Then tell them by word of mouth and through placards during the exhibition just what difficulties you have to surmount in order to manufacture the product.

Let it be known that you have on your hands a stupendous task, and that it has taken years to build up the proper organization. Drive home in other ways the fact that the city could not concentrate on the business, with all the other tasks confronting it at the same time.

The gas-appliance manufacturers should co-operate with the companies, and I am sure it would not take long before the bugaboo of municipal ownership could be banished.

Remember, the incentive is that the plants must not be wrecked by municipal ownership, when we all know that the plan is a failure. The thing is past the experimental stage. It is known that for the city to operate the plants is to wreck them. Then the private corporations have to build up again.

So the fight is against tearing down. Let's improve what we have, and not spoil it.

Accidents to Employees When Off Company Premises Can Be Prevented, Declares Tewksbury

Tells National Safety Congress of Work His Company Is Doing to Prevent Injuries to Employees—Campaign of Education

On handling the subject of "Accidents to Meter Readers and on Installation Outside the Company's Premises" a division into two parts seems logical, said F. A. Tewksbury at the recent National Safety Congress. Mr. Tewskbury is connected with the Denver Gas & Electric Company.

The first department to come in contact with the gas after it leaves the company's premises is the street or gas distribution department, which handles the installation of mains and services.

The next departments, in order, are the fitting shop and meter-reading departments, including the turn-on and shut-off men. The first division of the subject includes the main gang, their duties and the hazards most commonly met by these men, as follows:

The gas mains of the present day are either of cast-iron or steel pipe, the latter being the so-called wrought-iron pipe in general use. Cast-iron pipes are joined together with a bell-and-spigot joint, using case lead, wool lead or cement packing, or with a universal ground joint, using white-lead or red-lead packing. Steel pipes are either screwed, welded, flanged or joined by use of a patent coupling. Several cases of injury have been cited where workmen have received injuries by being pinched or caught between the joints of pipe, or burns received while making connections or couplings. I believe that most accidents of this nature could be avoided if the pipe layer or man making connection would take ordinary precaution to see that while the laborers are engaged in putting pipe in position, by means of cross-ropes from top of trench, that he keeps his hands and arms in the clear while guiding the pipe so joints will meet. Burns occur in most instances from the careless handling of the ladle as the hot metal is being poured around or in joint. Care should be taken to keep moisture, such as snow, water, etc., from the hot metal. The pipe layer should be supplied with proper fitting goggles. Discretion should be used in choosing the type of a glove that he wears, but under no circumstances should pipe layer be allowed to wear a glove with gauntlet attached.

Accidents Due to Trench Cave-ins

Many injuries under this class of work have resulted from trench cave-ins in sandy and filled ground, and precautions must always be taken to guard against cave-ins and possible injury to workmen. In such soils the weight of the earth thrown out should be kept back at least 2 ft. from the edge of trench, and sufficient cribbing or bracing used to insure safety. Tight cribbing is usually unnecessary unless the trench is more than 6 ft. in depth or the soil very treacherous in nature. Generally either one or two sets of stringers between each bulkhead, held parallel with trench walls by use of screw-braces, will suffice. The foreman should, however, use his discretion and avoid taking any chances.

After the trench has been completed for a sufficient distance the work of pipe laying can commence. For sizes up to 12 in. the use of a derrick is unnecessary, the length of pipe being rolled to the edge of the trench and let in by use of ropes. In this operation two ropes are necessary, one at either end of pipe; a knot is tied in ends of ropes that are laid at right angles to the trench beneath pipe. The men standing upon the stationary ends of ropes push the pipe over the edge of trench, paying out the other ends of ropes over the top of pipe to allow it to slowly roll into trench. The men handling these ropes should wear gloves to protect their hands from rope burns, splinters, etc. For pipes over 12 in. in size the use of a portable derrick is recommended. In this case the pipe should be skidded over the trench opening in as near the position it is to occupy as is possible. The weight of the pipe being lifted with the derrick, the skids should be removed and the pipe lowered.

Where the main is of small size, or where it is desired to supply new consumers before the completion of the entire job, the connection to existing mains may be the first thing to be done and the gas carried along as the pipe is laid. This policy is not to be recommended if it can be avoided, as there are hazards to every length of pipe laid in the possible failure of the bags and stoppers. In bagging off, or stopping of the mains temporarily, there are two methods in use: by means of collapsible rubber bags that are inflated with air after being inserted in pipe, and by means of expansion stoppers. Experience teaches that each one has its particular advantages and disadvantages, while a combination of the two makes an ideal arrangement. The gas bag is liable to burst or become dislodged by excessive pressure but is usually a gastight arrangement, while the stopper when properly set will not become dislodged but is not, as a general rule, gastight. It is recommended that on all mains 6 in. or over both the bag and stopper be used. By this arrangement the advantage of one offsets the disadvantage of the other. Another precautionary measure taken by the company that I represent is that all pipe layers or workmen connecting or tapping the main, where workmen are liable to be overcome by gas, shall wear some type of breathing device. At first we had the two-hour heavy type of a self-contained oxygen breathing device, but in our work the men complained they were too heavy to work in; also they were greatly hampered in getting in and out of trench. In most instances we could not get the men to wear them, who stated that they would sooner take the chance of being "gassed." After this discovery was made we adopted the lighter type half-hour breathing device.

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manufactured by the same company. We also have a hose arrangement equipped with a positive face mask. Since the time of the adoption of the lighter devices we have experienced no trouble with the men, and all wear them while making gas connections.

Falling Due to Carelessness

Falling or tripping, another hazard to be met in the laying of gas mains, is largely due, I believe, to the carelessness of the injured or their fellow workers. All tools, such as bars, picks, shovels, etc., should, when workmen are through with them, be returned to the toolbox and should at no time be left carelessly lying around trench, where someone is liable to stumble over them or knock them into the ditch. Another feature in this class of work is the danger of falling pipe. The lengths should, if possible, be placed a safe distance away from opening of trench, or, if this is not possible, wedges should be placed under the lengths to prevent rolling. At the time of lowering pipe to its place at bottom of the trench no one should be permitted in the trench until the pipe has been completely lowered, and then it is time for pipe layer, with assistance of men on top, to place the pipe in position ready for coupling. The foreman should at all times assign plenty of men to carry out the work to prevent workmen receiving a strain from overlifting.

After the main has been connected up and before the gas is turned on in consumer's premises, or turned into the existing main systems, the air contained in the pipes must be thoroughly expelled. In small mains this can be safely and thoroughly done by removing plug at the extreme end of the new system. In a large installation this becomes of vital importance and of extremely hazardous nature. In purging large main installations a standpipe should be arranged in the holes to be used for "gassing" long enough to discharge over the heads of pedestrians; a controlling valve should be conveniently arranged in the standpipes and a fine mesh gauze inserted near the top of standpipes; all lights and flames should be kept away, and in no case should an attempt be made to light or burn the escaping mixture.

When a consumer makes application for gas service, in either a new or old building, on street where the gas main has been laid for some time, the company employs several special crews (consisting of three to ten men) in this work. In many cases the men are ignorant and of foreign birth, consequently more liable to accidents, and the foremen must constantly be on the job reminding and talking safety to the men. Tapping the service mains is similar in this work as in the new construction, and the same precaution should be taken to protect the worker. Curb valves are required by city fire ordinance on all services larger than 2 in. We use the gate-type valve, which varies in weight from 7 to 40 lb. according to size of service on which it is to be installed, and careful handling is exercised at all times to prevent dropping valves in trench striking the workmen below; also, the same precaution should be taken when installing to prevent workers from being "gassed."

Drillers Should Have Goggles

While drilling through cellar or basement walls the worker should be furnished with proper fitting goggles, and care should be taken to see that hand tools are in proper condition; that drills have no mushroomed heads and hammers do not have cracked or broken handles.

The second division of the subject, while involving several departments of the company, has to deal with the interior of the consumer's premises. The common hazards are as follows:

Meters and governors are installed by the gas-fitting department after the service has been installed by the distribution department on the consumer's premises.

While this company does no piping of buildings for light and feels that its liability ceases at the meter, we believe that the consumer should profit by our experience, and therefore insist on two inspections on all work done by outside plumbers or fitters, one inspection to be made before the piping is concealed and the last and final inspection to be made after the pipes have been plastered over. The former is to ascertain if the piping has been laid in accordance with the rules and regulations of the company governing size of pipe and methods of installation, while the latter is to ascertain if the job is tight. At each inspection the piping should be subject to air pressure.

Tools Should Be in Good Condition

Upon setting meters or appliances the fitters should take precaution to see that all tools are in good condition, such as wrenches with perfect handles and not jaw-sprung or worn smooth from use. Particular stress should be laid on the subject of proper objects on which to stand while working on meters or appliances. A number of injuries have been recorded caused either from wrench slipping or breaking due to defective jaws or handles, or the object on which workman was standing giving way and allowing him to fall. The fitter should instruct the consumer in the use of appliances he has installed on his premises; the oven of the range should receive a goodly share of the precautionary instruction. The consumer should be instructed to always open both doors before lighting and to be positive that gas is burning before closing them. Attention has been given this fact in late years by the manufacturer, so that on most modern ranges an oven explosion is a practical impossibility; but an impression of carefulness without creating fear is a thing to be desired.

All water heaters should be equipped with a flue or vent pipe connected direct to chimney or some other suitable place whereby the fumes will be carried off and expelled into the air outside the building. No water heater should ever be installed in a room of less than 1,500 cu. ft. air capacity, unless such room is equipped with a permanently open ventilator of not less than 13 x 14 in. dimension. In no case should a gas water heater be permitted to be installed in a bathroom or bedroom.

Should Abolish Rubber Tubing

The permanent abolishment of the use of rubber tubing or metallic tubing with rubber ends—or, in fact, the abolishment of all rubber connections for gas appliances—is a thing to be very much desired. There is no reason why all hot plates or other small appliances cannot be rigidly connected with pipe and fittings, while the movable or temporarily connected appliance, such as room heaters, etc., should be connected with metallic tubing fitted with a ground

(*Continued on page* 494.)

Must Fight Electrical Men for Business if Industry Is to Continue to Advance, Says Ballinger

Advertising and Commercial Manager of San Antonio Public Service Company in Stirring Talk

Declaring that the gas man must make an active fight if the confidence of the public is to be restored in the industry, S. J. Ballinger, advertising and commercial manager of the San Antonio Public Service Company, delivered an address at the fifth annual convention of the South Central Gas Association. Mr. Ballinger spoke on "Putting It Over," which he termed a talk on service. His speech follows:

This subject appeals to me because no one knows exactly what I purpose to discuss. Just as a Christmas package may hold anything from doughnuts to diamonds, so it is with a discussion of service. It's a blissful refuge for a public utility man in distress. From gas making to cake baking; from B.t.u.'s to three-part rates—no beginning, no end. The subject is so versatile that anything I may say relative to the gas business seems applicable. From the coal pile to the kitchen, the gas man has failed in many ways to put it over.

It's perfectly easy to delineate our sins of omission. We're long on vocabulary and short on action. Way back in 1906 the sages of industry counseled solemnly. After lengthy deliberations they pronounced the "uniform meter rate" as primitive and pernicious. Fourteen years later we find but a handful of progressives experimenting with new methods of charging. I wonder how many really believe our rates are properly based. A new basis, a little strategy might work wonders. This all leads back to service. We can't render service without the proper income. Electrical men talk rates in terms of demand, load factor, fixed charge, service charge, etc. With small rate increases the central station men are flirting with prosperity. Not so with us. We've got the right idea, but we haven't put it over.

Now what has this to do with service? The answer is simple. Service depends upon income. It depends upon credit, and both depend upon rates. Until the public knows some of the inside problems and workings of our industry rate increases will meet with little sympathy. The right kind of co-operation necessary to maintain our credit and insure adequate service is not likely to evolve from ignorance and suspicion. Kicks and knocks made a poor diet even for a gas man. The public is entitled to know how our companies are financed. Most prejudice and antagonism can be traced to misinformation or no information. Gas companies are the victims of both.

All Have Brilliant Ideas

We are all loaded with brilliant ideas, but no one pulls the trigger. We snore softly, while electricity is stepping into industry and home doing the work for which gas is better fitted. The sons of kilowatt are really trying to put it over. Can you think of anything in the gas industry that compares with California's co-operative electric league? Since that organization was perfected the sale of electric consuming devices has increased in California from about $6 per capita to an estimated $10 per capita during the coming year.

Merely to sell, doesn't mean anything. You have to put it over when the customer knows his appliance. A gas range looks simple. It is, but how many high bills; how much dyspepsia; how many divorces; how much bad cooking; how much unsatisfactory service, can be traced to poor adjustments and lack of proper operating knowledge? They've got the range, but not the idea. It's almost pathetic to see the electric salesman grob off these half sold gas consumers. He sells the idea. Then delivers the range and some poor, misguided soul cheerfully pays twice as much for the privilege of using an electric range. The sad part for the gas man is that they are so thoroughly sold they imagine they have a real bargain.

Electric Range Can't Compare with Gas

I am not using a hammer. Personally, I like an electric range. It has many good points in its favor, but it is idle and foolish to think it can compete with gas ranges under present conditions. I have used both in my home. Speaking in B.t.u.'s, or monthly bills, gas is an easy winner. The alleged superiority of electricity in other ways is mostly a reflection of the enthusiasm and pepper put into selling electrical merchandise. We need some of it to put it over.

A few months ago, a friend of mine told me he was undecided what kind of an electric range to buy. I knew him and his family quite well. Well enough to know that they no more wanted an electric range than I wanted an aeroplane. A few questions brought out the fact that his wife had never been able to get results from the oven. Their bills were twice what they should be. The people who had sold them the range had failed to adjust the trouble. And there you are.

To make a long story short, one of our men went out, discovered the trouble with this particular oven burner and readjusted all burners. Their bill has dropped from around $4.80 to $2.60 a month, and she is perfectly contented. Gas appliances must have service. They must be properly sold in the display room and the trouble man must complete the sale. We have at least one trouble man who is almost uncanny in his ability to put it over. He has sold the idea and the service to hundreds. They are satisfied customers.

Recently I saw an electric bake oven replace gas. There was only one reason, but it was a good one. A red-headed salesman. The reason electricity is going into factory, foundry and home is because the salesmen are putting it over. They are selling the idea, and because they have bid good-by to uniform meter rates, they are getting the business at a real profit.

We put out space or room heaters. When people get cold, they come and buy them. We don't sell them. We load up a home with non-vented heaters, not merely as chill chasers, but as a heating system, and thereby

help sell the electric idea, or the coal idea, or the wood idea, or any old idea, but the solid comfort and satisfaction of gas. There is scarcely a day during the heating season that I don't hear this little song of sorrow, "That old gas heater gives me a headache," or "Is there any such thing as an odorless gas heater? I just hate that smell," etc.

Demand for Gas Heating

With coal prices still aviating, there is a demand for gas heating, and there is a right way to sell gas for heating purposes. Portable heaters are used extensively in the Northern cities. As chill chasers they are ideal, but the real heating comes from other sources. Often it is a coal furnace, but to-day we find many gas furnaces, and properly vented gas heaters. Here we have but a few months of cold weather. We sell non-vented heaters knowing that they must be used for long periods, and we are quite certain the results will be unsatisfactory. We are not putting it over. We are getting a temporary sale at the expense of the idea. Worse than that, we stand pat on the uniform rate, and a great deal of this business is done at a loss. For three months we must have a capacity for double our normal demand. Fixed charges go on for twelve months. The income is cut off after two or three. "Business may come and business may go, but fixed charges go on forever."

If my guess is right, many gas companies are in a hole right now and right now is the time to put over a few adjustments and get away from the uniform rate. Take a lesson from the electrical men. Yes, take a lesson from street railways who, in almost a dying condition, have taken the publicity cure. They are not out of the woods, and may never be, but they know pretty well now that they must take the public into their confidence and they are doing it with good results. Almost all of the larger companies are hammering away persistently in an effort to place the street railway situation fairly and squarely before the public. Why not bolt the gate before the calf bolts.

A Sales Plan

Getting back to heaters for a minute. Perhaps I should say here that we are not in the appliance business. But we do sell gas service and we want to make good. A year ago we perfected a plan by which the gas dealers have the use of our display room for a month at a time. We furnish a salesman and pay him a stipulated salary and in turn charge the dealer for 5 per cent for everything we sell. Our salesman is preaching the satisfaction, economy, availability of gas service first. We hope to sell the idea along with the appliance. We are co-operating with the dealers with one goal, "Better gas service everywhere."

If you are in the gas merchandising business, don't put the appliance out without really selling it. Very often I tell some customer that the pilot light on her water heater may cost about 75 cents a month to operate, and very often they will reply, "Oh, yes, I expected to pay that much for my water heating, but look at this bill." Sell your appliance first. Back it up with service. If there are other gas dealers in your community, get together with them. Talk over your problems. If there are enough dealers, form a club. Don't swallow the idea that because gas is cheaper and better, the business will come. Compete with your competitors. If you don't, you'll be playing to empty pipes some day and selling the by-products. The public doesn't care if there is 300 B.t.u. or 600 B.t.u. in a cubic foot of gas, but they are vitally interested in a uniform, satisfactory service. And here, of course, the service proposition gets back to the man who is making the gas.

The NELA has just issued a series of pamphlets telling the consumer something about electricity. What a kilowatt is, how it is measured, and what it does, and through it all they are driving home comforts and convenience of electricity. This publicity will be fired broadcast by hundreds of central stations at the same time. What about the gas boys? True the A. G. A. is doing some national magazine advertising. Are you supplementing or supporting it in any manner? Frankly, how many of you even knew it. Are we to assume that the gas consumer does not need this kind of treatment? Do we think he thoroughly understands the problem of making, distributing and selling gas? Regardless of what we think he doesn't and he must know some of these things in order to give us the fair treatment to which we are entitled.

Advocates Publicity with Courtesy

Publicity of good will advertising must begin with our organization. Teach your men the value of a smile and how to say "Thank you" with a ring of sincerity. Teach them genuine courtesy. Tell them how to answer some of the many questions fired at them by irate customers. The meter reader and the trouble shooter are of infinite value in building up public confidence. That's good will. We know it's a necessary asset, but we are not really working to put it over and these same men can do more harm than yards of Bolshevist propaganda. In greater and less degree this applies to every employee. Advertising plays an important role in creating public confidence. It is an age of ink slinging. It's hardly an exaggeration to say that miracles are being wrought by liberal applications of printers' ink. But remember the service you advertise must be rendered, and it must be supported by courteous, competent employees.

Of course, you've heard all this before. I never tried to give it a little different twist. But look at it fairly. It wouldn't cost you a cent to get right down to brass tacks with the men and women in your organization who are on the firing line. Make regular conferences on creating good will a part of your business, and give these meetings the dignity and importance to which they are entitled. An indifferent employee—a mechanical employee—is a liability. You know it, but you are probably paying out real money for some of them.

Must Educate Public

And a little suggestion as to educational advertising and publicity. If you are going to try it at all, give it a chance. It has taken years of the wrong kind of advertising to bring us into disrepute. Nevertheless its very effectiveness proves what we can do with the right kind of publicity. Set aside a definite appropriation for this purpose. If it is $10,000 a month or $1,000 a month, maintain it. Not for weeks or for months, but for years. Don't hope to tear down in a day a sentiment that has taken twenty-five years to build. Tell your story regularly, repeat it, keep hammering. I am quite sure that spasmodic outbursts on a subject of

this kind are absolutely worthless—even injurious.

To close: You'll agree with me on some of the points I have brought out and I claim no originality. But let's try during the coming year to really put over some of the ideas we are sold on. Let's label our banner "Better Gas Service" for all purposes and start forward. Let's develop real gas salesmen and sell the idea. Let's start building up permanent public confidence.

And let's make this splendid association that you have a starting point through which we can keep closer communion with each other and with the A. G. A. Briefly, let's dig our spikes into the turf and go.

Newspaper Gains 25 Per Cent Increase in Capacity By Use of Gas in Place of Coal

W. W. Cummings Tells of Installations Made in Boston Newspaper Plants Which Have Increased Efficiency

In the spring of 1916 the question of supplying gas in place of coal for the twin 8-ton auto-plating pots of the Boston *Globe* arose. We had up to that time supplied gas to the newspapers for their linotype machines and for steam boiler connected with matrix tables. The work to be done at the *Globe* averaged 833 plates in twenty-four hours of the seven-day week, stated W. W. Cummings in an American Gas Association convention paper.

Gas Under Auto-Plate Pots

Upon investigation we learned that gas was used under the auto-plating pots of some New York newspapers. One of these newspapers (large dailies) was using gas through a system of 38-48 vertical pipe burners with drilled caps. It was also using under one pot a burner known as the Gault burner. All the burners were using air blast, the former using the building supply of 63 lb. pressure through a regulator at about 2½ in. and the latter using the straight compressor pressure throttled at the supply valve. The results were much the same in efficiency, the Gault burners using about 840 cu. ft. of gas per hour as against about 680 cu. ft. to the other, but the Gault burner brought the metal to temperature quicker so that the net consumption of gas was about the same, namely 495 cu. ft. per hundred pounds of metal. The time necessary to melt a twin seven-ton pot was about two hours in one case and two and a half hours in the other.

In another case a special burner known as a Scott's burner was used which was about 14 in. in diameter and had three rows of forty-four one-eighth inch holes which were at an angle to the surface of the burner measuring about 45 deg. This was connected to a 2-in. pipe, a burner being placed under each of the twin pots using air from a No. 5 American Gas Furnace Company blower at about two and a half pounds pressure In all these cases there was a tendency to use a very sharp blue flame and an excess of air.

The Boston Globe

With the Boston *Globe* the Scott's burner was used. It was supposed to use 600 to 700 cu. ft. of gas per hour, the entire system being designed after the pattern used at the last New York paper mentioned above, a duplicate set of No. 5 American Gas Furnace Company blowers being used. While it was felt that the New York paper was using too much air at too high a pressure and at a larger capacity than necessary it was deemed best not to make any changes since the *Globe* placed great stress on the fact that it had never lost an edition and would not, under any consideration make a change that might break this record. As it was, the pots were changed one at a time so that the coal pot was in reserve up to the time that the gas had proven itself reliable. The great fear at that time was that the spot heat when playing on a pot filled with cold metal would crack the pot. In order to provide against this and to cause the metal to melt uniformly wherever it touched the pot, the flame was adjused so that it could be long and rather floating, so that it embraced the greater part of the pot. Work was commenced Sunday after the week-end rush of the paper had passed, the pots being emptied and allowed to cool, and the work was completed so that the pot was ready for use Monday morning. Of course, all the necessary piping up to the point of the changing the pot from coal to gas was performed during the week. In making this change the coal grate was removed and the sides of the door were drilled and sawed away so that the burner could be placed through the ash-pit door. This door was about 16 in. wide and while the burner was about 16½ in., consequently but little cutting was required. The burner was mounted so that it could be placed and removed as a whole through the ash-pit door by simply disconnecting unions on the gas and air pipes. Of course, check valves were placed in the gas pipe so that the air could not be passed into the gas main and the air pipe was brought in a loop below the gas pipe so that there would be no tendency of the gas to rise in the air pipe when the blower was shut off. This loop was drained by a pet cock.

In cutting the ash-pit opening away, a portable electric drill was used attached to a near-by lamp socket. This first installation worked out successfully and the second pot was equipped in the same way. It was found, as expected, that the air supply was a little greater than necessary. The man in charge of this room is unusually capable and inclined to make experiments on his own behalf. Seeing that there was surplus air, he cut down the pressure to about six ounces by opening a tee in the air line and allowing air to escape into the room. He thought at first he got better results this way but afterwards returned to the pressure of one pound.

In using this installation they found about 25 per cent increase in the capacity over coal. The maximum run was 110 plates or 480 lb. of metal per minute, not counting the tail piece (the cast weighed about 23 lb. and the tail piece was about half of this weight).

They cast now between 1,000 and 1,100 plates Saturdays and have no difficulty in maintaining the required temperature. They have not had a cracked pot since the installation was made. In fact, there has been no cracked pot in the auto-plate machine in any of the newspapers in Boston that have been installed with these burners. Some trouble was caused by the gradual filling up of the one-eighth-inch holes and they divided the burner so the top could be removed for cleaning.

At about the same time an Improved Appliance Company pyrogenetic burner was used on the same system under two slug pots and lately they have displaced the Scott burner with the pyrogenetic burner under the

auto-plating pots. The principal reason for this change is on account of the facility of operating the pyrogenetic burner by clusters. It is also easier to keep clean. It would be noted, however, the form of the flame does not adapt itself to the surface of the pot so well as the circular long flame used under the Scott burner and incidentally they have cracked two of these slug pots since the installation.

The gas consumption on the two twin auto-plating pots and the two job pots together with the linotype machines is from a million to a million and a quarter cubic feet of gas per month. When first installed this rate averaged about 81 cents per thousand cubic feet under the regular fuel rate at that time. Since then the price of gas has been advanced three times, a total of 30 cents per thousand and the average cost during the past year amounts to 91 cents per thousand cubic feet. The present gas rate is as follows:

*First 25,000 cu. ft. a month at $1.10 per thousand
Next 25,000 cu. ft. a month at $1.05 per thousand
Next 50,000 cu. ft. a month at $1.00 per thousand
Excess over 100,000 cu. ft. a month at 95 cents per thousand
Whenever the monthly bill figured at the above rates amounts to over $300 a discount of 20 per cent will be allowed on that portion of the bill in excess of $300.

The Boston American

The next installation was at the Boston *American* under a job pot and here the burner design was changed so as to permit a No. 12 Improved Appliance Company concentric burner being placed in the center of the ring burner, the idea being to operate this burner as an atmospheric burner to keep the metal at the required temperature when they were not casting, enabling them thus to shut down the blower. This burner also acts as a pilot for the blast burner and generally is not shut off while the blast burner is operating. This burner was connected to the gas line back of the mixing tee and the spuds were reamed so that it would pass about 200 ft. of gas an hour. It is placed below the level of the ring burner so that it is not subjected to the intense heat of the combustion chamber. It is found these burners last a year or two before burning out. Hale mixers were placed on the atmospheric burner with the expectation that it would be run part of the time turned low but it was found that on this pot of about three tons capacity the outer ring just maintained the metal at the proper temperature.

The next step was to apply gas to the auto-plating pot. The casting room is in the basement and there was scarcely room for the two seven-ton twin pots and the other machinery necessary to the auto-plating room. In spite of an expensive ventilating system the temperature was often over 120 deg. in summer and the paper circulation had increased so that the two coal pots would not take care of it. The same burner that was used under the slug pot including the No. 12 Improved Appliance Company center atmospheric burner was used, but on account of the increased demand during the rush hour the blast burners were drilled to take more gas. These burners passed 800 ft. of gas per hour or 1,600 ft. for the two burners at the laboratory but under the pot the combustion chamber was not large enough to take care of this amount of gas with the only chimney flue available, so Cleveland draft regulators were put in near the pot and at the peak load some of the products of combustion were discharged into the room and removed through the ventilating system. This defect was corrected later, however, when another coal-fired slug pot which was connected to the same chimney was removed and placed upstairs over a gas furnace, after which the chimney was able to take care of the burned gases at all times.

Gas was used on these burners successfully for about a year when the increase in requirements made it imperative to increase the capacity of the two pots already there. After careful consideration and some laboratory work it was decided to install pressure gas using the same burner. A 4½x6¼ Root gas booster was installed, using Improved Appliance Company air mixers, other things being the same, and with two pounds pressure the gas consumption during the demand period was increased about 20 per cent. In actual work it was necessary to turn off one of the burners for a time even during the extreme demand to prevent the temperature of the metal from rising too high. When this last change was made it was desired that some automatic control be established to prevent the metal reaching too high a temperature, as it reached 1,000 deg. at times, and the loss of zinc was expensive and the metal lost its best casting properties.

Bristol indicating pyrometers with metal contacts were placed in a convenient place on the wall and Palmer Electric Company valves were placed near the burners. The system worked beautifully at first, but particles collected in the valve seat shortly afterward causing the valves to leak and the burners would then light back in the mixer. Of course, these valves could have been placed with a by-pass so that the burners would never go out but the turn down capacity of the burners was a little greater than the minimum desired. There is some question whether the system will be made to work satisfactorily without changing the valves to a positive acting type and possibly moving them to a cooler part of the room. Removing them farther from the burner will aggravate the tendency to flash back, however and it may be that it will be necessary to install a by-pass.

The change to pressure gas has been eminently successful. While there is no opportunity to obtain the actual detailed gas consumption, the monthly bills were about 10 per cent less under this system than the bills for corresponding months under the other, while the work done was more if anything.

On removing the Palmer valves for repairs, quick acting valves were used in their place and it is interesting to note that almost as good results were obtained as could be expected from the automatic valves. The operator would glance at the pyrometer and throw the valves out or in as shown necessary while with the cocks and screw valves he was not so careful to follow the indication of the pyrometer. The only difficulty now is the tendency for the burners to clog up and burn out, although it is only necessary to clean them occasionally, and renew them once a year. It may be possible that

(*Continued on page* 492.)

***Since the above article was prepared the fuel rate has been advanced again as follows: First 25,000 cu. ft. a month, $1.35 per thousand; next 25,000 cu. ft., $1.30; next 50,000 cu. ft., $1.25; excess over 100,000 cu. ft. a month, $1.20. Discount of 20 per cent on the amount of monthly bill in excess of $300.**

American Gas Engineering Journal

SIXTY-FIRST YEAR

Published Weekly by AMERICAN GAS LIGHT JOURNAL, INC., 150 Nassau Street, New York, N. Y.

ELBERT P. CALLENDER, Pres. S. G. KRAKE, Vice-Pres.-Treas. A. M. GLEASON, Sec'y

WALTER A. FAIRSERVIS, Editor

Subscription $3.00 per year, including postage in the United States, Mexico, Cuba, Porto Rico, Hawaii or the Philippines; in Canada, $4.00; foreign, $5.00—Single Copies, 10 cents

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Announcement

The AMERICAN GAS ENGINEERING JOURNAL announces the appointment of Walter A. Fairservis as editor, to become effective at once.

Mr. Fairservis takes up his duties after having spent a number of years in the industry, and he has pledged himself to carry out the constructive policy of the AMERICAN GAS ENGINEERING JOURNAL in every way.

It is planned to make the sphere of the JOURNAL larger than ever, and in order to do this several departments will be added to those already established. These new ventures will be announced from time to time, and it is hoped that with these additions the work of this paper will be of even greater value than it has been in the past.

The AMERICAN GAS ENGINEERING JOURNAL, as in the past, will welcome constructive suggestions and criticisms for it is only by having the complete cooperation of the industry as a whole that its best work can be done. It is the desire of the JOURNAL to be of real service and it asks that all possible aid be extended to it in order that this end may be gained for the benefit of the whole industry.

AMERICAN GAS ENGINEERING JOURNAL.

Swat the Fly!

The first of a number of articles on municipal ownership is presented in this issue of the AMERICAN GAS ENGINEERING JOURNAL. This question, which is usually discussed in the abstract by gas men, looms large on the horizon for the coming year. Municipal ownership should be dealt with exactly

as any other problem of business is disposed of: by settling it decisively.

Practical men in the field are fully aware that municipal ownership is doomed to failure because fundamentally it is not right. But the time to dispose of this question is now, and not later when its advocates are in a stronger position, and when they have carried on its propaganda on a larger scale than ever.

Those who are able to read the signs are of the opinion that the public is opposed to placing the operation of its public utilities in the hands of politicians, for that is just what is meant by municipal ownership, but this fact has not deterred those who are in favor of this plan from going ahead. They are determined to force municipal ownership wherever possible, and they will spare no efforts to do this.

Statistics which are quoted in the article above referred to show that there are at present forty-three companies which are municipally operated. Of course, this is a small proportion of the total companies in the United States, which number 1,024; but this number includes several which have joined the municipal ownership ranks comparatively recently.

The AMERICAN GAS ENGINEERING JOURNAL is in possession of authoritative information which shows that during the coming year there will be a determined fight waged to force municipal ownership in certain parts of the United States, and one of the companies included in this amazing program is one that has been much in the limelight recently.

It is unfortunate that the company referred to has seemed to play into the hands of its opponents, but that is just what it has done. It is hoped that this will not injure the industry, but it may.

This journal is opposed to municipal ownership in any form, because such a move is against the success of our industry. It believes that the thousands of men who have brought our industry to its present highly efficient state are entitled to that satisfaction which follows a work well done. The gas industry is made up of men who as individuals have done wonderful work in the development of the world, and for ruthless self-seekers to attempt to tear down this work is not to be thought of for an instant. It is time that this fly, as Mr. Walter points out, should be swatted.

Safety Work Pays

The safety movement in the gas field is spreading rapidly and the number of companies that are introducing this work in their plants is a pleasing indication that at last this important feature is receiving the attention that it deserves. Safety-first work should be a very important part of every program, for it not only means that the employees of the company are protected but also that the property of the company is kept from injury. Recently there has come to light the result of the safety work of one company for one year. There was saved over $17,000 on the cost of operation in material that would have otherwise been cast aside. This is apart from the time loss on the part of employees, which must have amounted to a considerable amount. It is plain to be seen that safety work on the part of a company is well worth the effort put forth.

Safety work should not only include safeguards against injury to life and property, but it also should include reclamation work. There are many plants which are filled with material that has been abandoned because its usefulness for some particular work has ended, but in many cases these implements can be used advantageously in another department and the cost of new material avoided.

Many States have employees' compensation laws which have a provision for the care of employees who have been injured while at work. In other cases there are insurance companies which base their premiums charged on the number of accidents occurring in a plant. This is particularly true where carelessness has crept into the operation of a plant and the cost of protection from damage suits is very high.

The increased efficiency resulting from a well-laid-out safety program cannot be measured in dollars and cents, but it is plain to be seen that from a business standpoint safety pays, and pays big.

The appointment of a safety-first committee by every company should be one of the first acts of the coming year. It may take some time for this committee of employees to function properly, but once this has become a smooth-working machine results are sure to follow quickly. It is hoped that during 1921 there will not be a company without a definite safety program.

Accidents to Employees When Off Company Premises Can Be Prevented, Declares Tewksbury

(*Continued from page 488.*)

joint union at either end. I believe more life and property has been jeopardized by rubber gas connections than perhaps any one thing pertaining to the gas industry.

Tubing pulls apart, becomes leaky; the ends split or become so large that they fall off the hose nipple or cock; someone stumbles over the tubing or steps on it, which all result in the same thing: escapement of gas, with consequent hazard.

While the work of a fitter is not particularly hazardous, it may become dangerously so at times. He is working with a gas that, under favorable conditions, is not dangerous but which may, as a result of accident or incompetent handling, become a deadly menace.

Looking in Leaks

All workmen should be forbidden to use open flames in searching for leaks. A number of accidents which occur each year from naked flames being employed in the search for leaks demonstrate the necessity for absolute prohibition.

If there is a strong odor of gas about the premises reporting leak, the first thing to be done is to open doors and windows to ventilate the rooms where the odor is detected. Then examine all fixtures and apparatus in the rooms and all exposed piping. Make examinations either by smelling along fixtures and pipe or by rubbing fingers over them and smelling fingers or by listening for the sizzling noise made by escaping gas. Where the above methods fail to locate the leaks, apply solution of soap and water by means of a soft brush to all exposed piping and fixtures, particularly to each joint filling or cock and along pipe seams, watching closely for bubble that will appear where leak of any magnitude exists.

Forbid Use of Matches

Meter reading and turn-on or shut-off of meters is handled by the meter-reading department. The largest number of accidents occurring to members of this department is caused by forces outside the company's premises over which we have no control, such as dog bites, power vehicles and collisions. Meter readers should be furnished with an electric pocket flashlight, and the practice of using matches while reading meters should be forbidden. One of the greatest sources of evil we have to contend with from the meter reader is his effort to locate a gas leak around meter when requested or told of leak by the consumer. This is a very dangerous practice, as in most cases the man is ignorant of the gas business or the dangers attended either from fire or explosion. All men upon entering any dark hall or cellar-way should first make certain that passageway to the meter is unobstructed and that no broken risers or treads exist on stairs; that boxes or other material lying on the floor cannot be stumbled over, causing a fall and possible injury.

As a further precaution to our meter readers, at any house where there is a vicious dog, dangerous stairways, or dark or dangerous basements we have this information printed on the meter book, so that if a new man goes there he knows what the danger is before he enters the house. This costs but very little time and expense, and prevents many accidents of this nature.

Have Installed Safety Competition

As a further incentive to keep the foremen of the various departments interested in safety we have installed a safety competition based on lost-time accidents. Each competition extends over a period of six months. The standings of the various departments are posted on all safety bulletin boards throughout the various plants on the first of each month. When this competition was first started some two years ago the departments were grouped under one head, each having its own handicap based on the frequency and severity rate of the departments for the two years past. To the winning department the company presented a silver trophy cup, which when won three times in succession would remain permanently in the department, and $100 cash bonus to the foreman of the winning department. While this plan worked well, it was decided that a higher degree of efficiency could be obtained if the various departments could be grouped under two classes according to their employment hazard. We now award $50 to the foreman of the department having the highest standing in each of the above groups at the end of the six months' competition. Also a trophy cup is presented to each department, and if won three consecutive times it remains permanently in that department. Some time ago we organized a question and suggestion department, composed of the heads of the different departments. Meetings are held once a month. We have installed in convenient places throughout the various plants and shops suggestion boxes, and all the workmen are encouraged to offer suggestions regarding their work whereby greater safety and efficiency may be obtained. These suggestions are collected a few days before our meeting and are carefully looked over and numbered, and then brought before the meeting for discussion. We also have a committee of four that afterward goes over the suggestions and awards three capital prizes—namely: first prize, $5; second, $3, and third, $2. Also, each man receives $1 for each suggestion submitted by him.

In conclusion it might be well to mention a few statistics of the work carried on by this company for the year 1919, together with the number and nature of accidents occurring throughout the various operations in the several above-described departments.

In the gas distribution department a total of 20,992 ft. of new main was laid, making at the end of the year a total of 2,108,556 ft. of main (all sizes) in use in the city. Also, this department connected or put in gas services on 835 new installations, making a total of 42,858 services or gas connections in use in the city, with but two accidents, both from gas poisoning, and with the loss of only three days' time, and these two accidents were caused by the men taking a chance. They had safety devices but did not use them.

In the gas-fitting department a total of 2,561 meters were connected, while 290 were disconnected, leaving a balance of 49,763 meters in service (not including the change of meters due to leaks and other causes, which were also handled by this department). Also 2,607 all types of appliances were set and 24 disconnected, making a total of 86,468 appliances in service throughout the city. We feel that this department had an unusual record, in so far as it did not have a single accident which resulted in the loss of time to a workman during the year, a record that it is so far this year in a fair way to maintain.

In the meter-reading department an average of 49,763 meters were in service at the end of the year on the consumers' premises, employing an average of twenty-five men per month. In this department occurred thirty-two accidents, with a loss of seventy-nine days, most of these accidents being due to animals or power vehicles, over which we have no control.

Newspaper Gains 25 Per Cent Increase in Capacity By Use of Gas in Place of Coal

(*Continued from page 492.*)

much of this trouble can be obviated by making the surface of the burner of refractory or nichrome.

The gas consumption at the Boston *American* is about a million a month. This last season a 12 h.p. gas-fired steam boiler was added for the matrix dryer, this is only intended for summer use. A similar boiler under the Boston *Journal* gave excellent satisfaction, and was used continuously while that paper was being published, although they had a coal-fired steam plant in their building and sold steam to outsiders.

The Boston Evening Record

The next installation was that of a slug pot for the Boston *Evening Record*. A No. 4 American Gas Furnace Company blower and the same burner as that at the Boston *Globe* was used. At first there was some complaint about lack of speed. On investigation it was found that when the air pressure was too great less gas was inspired than when the air valve was throttled. This was probably due to the faulty design of the McDaniels suction tee that was used. The work here was very intermittent and it was found that the Improved Appliance Company fan blast, pyrogenetic burner required less care and less power.

The Boston Transcript

The Boston *Transcript* has installed the fan blast pyrogenetic burner under its auto-plating pot and is well pleased, but the requirements are not nearly as great as under the other dailies. It is probable that for such demands the fan blast is best on account of its lower cost for power and installation, but when it is necessary to force the combustion it seems best to use the pressure gas system. There are only two of the dailies left which use coal under their auto-plating pots. The men in the stereotyping rooms using gas all say they would quit rather than go back to coal. The temperature is much lower in summer and the plant is very much more elastic.

In each case services from two different streets are provided and duplicate meters are used.

Test Made at the Boston Globe, July 24, 1920

The method of running this test was to fill the pot full, bring it to a certain temperature, make the run and then bring the metal back to the same height in the pot and at the same temperature. The weight of the plates and tail pieces cast during this time and the gas consumption, during this same period, gave the actual weight of metal melted for the gas consumed. The tail pieces were returned to the pot as fast as cast.

The capacity of the pot was eight tons. It had twenty Improved Appliance Company pyrogenetic burner heads on two manifolds of ten burners each. All of these burners were used from the start of the run to the end of the test. Total length of test, one hour and seven minutes. The air pressure was furnished by a positive pressure blower at twenty-four ounces. Metal at 780 deg. and pot full. Time started, 3.45 P. M., meter reading at start, 903,500. One hundred plates of 87 lb. each (including tail pieces of 30 lb. each) were cast. Time first part of run finished 4.17 P. M. Meter reading at end of run was 904,300, gas consumption 800 ft., pot down 3 in. at finish of this part of run. Metal brought back to the original height by putting in 40 plates at 57 lb. each at 4.52 P. M., temperature 780 deg. Meter reading at that time 905,100, gas consumption 1,600 ft.

The meter also supplied a three and a half ton job pot which had a burner passing 740 cu. ft. of gas per hour. This could not be separated and the deduction due to the gas used under the job pot was estimated in the twenty-four-hour run. It was arranged that this job pot should be shut down during the short test, but later developments tended to show that it was lighted part of the time, and the atmospheric burner was lighted all the time. This atmospheric burner was drilled to pass 200 ft. of gas per hour. Making the correction of 233 cu. ft. for gas run gives 11,520 lb. of metal with 1,567 cu. ft. of gas or 7.35 lb. of metal per cubic foot of gas.

Pyrometer readings as follows:

3.45 P. M.	780 deg.
3.55 P. M.	720 deg.
4.05 P. M.	720 deg.
4.15 P. M.	700 deg.
4.18 P. M.	710 deg.
4.52 P. M.	780 deg.

showing that 5,700 lb. of metal plates were cast and 3,000 lb. of tail pieces melted and the metal in the pot maintained at a temperature of 780 deg. with an expenditure of 1,600 ft. of gas, or 3.56 lb. of plates, without the tail pieces, were cast per foot of gas or 5.44 lb of metal were melted and brought to a temperature of 780 deg. per foot of gas.

In addition to this a twenty-four-hour test was run. The pot was filled and brought to a temperature of 760 deg. and at the finish of the test was brought back to its original condition and temperature. The amount of metal cast, including the tail pieces, was 51,243 lb. Gas consumption during this period was 16,500 ft., giving a production of 3.1 lb. per foot of gas.

Test Made at the Boston American, July 22, 1920

This test covered a twin pot 22 in. deep, 33 in. wide and 44 in. long. Metal was brought to the top of the pots. Temperature at start was: No. 1, 655 deg., and No. 2, 665 deg., and after the run the metal was brought to the original height and temperature in both pots. These burners were special ring burners supplied by gas, compressed by a Root gas booster to 2.1 lb. The pot is furnished with automatic pyrometric control, but during this test, for the purpose of comparison with other papers, the valves were operated by hand. This would not make any great difference in the test, as during casting time the temperatures are so low the pyrometric control does not operate. Its saving is supposed to take place during light runs or at intervals of rest. Test was started 12 noon.

The weight of plate and tail pieces averaged 80 lb., of which the tail piece weighed 32 lb. Length of run was 23 minutes, consumption 700 ft. of gas and 90 plates, equal to 7,200 lb., were taken off. Then 4,320 lb. of metal was added to bring the level to its initial point and temperature. It took 47 minutes to bring the pots to

their original condition. All the burners were lighted at the start and continued through the run.

Pyrometer Readings

12.15 P. M.....	No. 1—550 deg.	No. 2—575 deg.
12.23 P. M.....	540 deg.	520 deg.
1.10 P. M.....	655 deg.	665 deg.

Total gas consumption 1,800 cu. ft. or four pounds of metal melted per foot of gas.

An additional twenty-four-hour run was made at the Boston *American*, pots being brought to temperature of 665 deg. at the start of the run and returned to the initial condition and temperature at the end of the run. Pounds of metal melted was 47,440, gas consumption 12,440 cu. ft., or 3.81 lb. of metal per foot of gas.

The plates at the *American* weighed 80 lb. with the tail pieces, which weighed 32 lb.

Test Made at Boston Transcript

It was impossible to secure an accurate test here, as we were unable to interfere with the operation of the pots to get the start and finish at the same temperature and height of metal. The figures secured may or may not be of interest, but are given as follows:

The plates weighed 55 lb. without the tail piece, which weighed 20 lb., a total of 75 lb.

The pot was supplied by eight pyrogenetic burner heads on two manifolds, with the ordinary fan blast of the Improved Appliance auto-plate outfits as furnished by the Hoe Company. Total time of test one hour and fifteen minutes. Total gas consumption 515 ft.

The temperature at start was 760 deg. Fahr. with the metal an inch and a quarter from the top. At the finish the temperature was 680 deg. Fahr. with the metal six inches from the top.

The area of the top of the pot was 1,732 sq. in. The pot was 61 in. long, 32 in. wide and 19¼ in. deep.

The run was commenced at 2.25 P. M., with the pyrometer at 760 deg. and the first part of the casting was finished at 2.44 P. M., with a gas consumption of 190 cu. ft., the cast being 36 plates, weighing 75 lb., of which 20 lb. was the weight of the tail piece.

The second part of the test was begun at 2.50 P. M. Pyrometer at the start was 700 deg. This part of the cast was finished at 2.58 P. M., with a gas consumption of 50 ft., and eight plates were cast. The temperature at the finish was 700 deg. The tail pieces cast and remelted equaled 160 lb., with a gas consumption of 50 ft., or 3.2 lb. of metal per cu. ft. of gas, besides maintaining the temperature of the pot.

The last part of the test was commenced at 3.10 P. M., the pyrometer reading 730, and finished at 3.40 P. M., with a gas consumption of 275 ft. Thirty-six plates were cast, and the temperature of pot at finish was 680 deg. We were not allowed to bring the pot to its original level and temperature.

During this test only four of the pyrogenetic burners and one manifold was used, except during the period of 3.10 P. M., to 3.23 P. M., when all the burners were used. The capacity of this pot is five tons.

In addition to this, a twenty-four-hour test was made, the metal being brought back to the original condition and temperature as at the start. Amount of metal cast 10,050 lb. Gas consumption 5,200 cu. ft., or 1.93 lb. of metal cast per cu. ft. of gas.

The leaks of gas through the valves were successfully corrected, but the coils first gave us trouble through the spattering of the metal on the valve, which short-circuited the coils. These were then protected by galvanized iron. After this the coils broke down through what was apparently an overload in current. While they lasted, the results were all that could be wished for, and it is believed that with the re-design of the coils to carry this current at the temperature in which the valves were placed, good service can be rendered.

Texas Man Decries Practice of Ripping City Streets to Install Gas in Homes

Dr. M. P. Cullinan Declares Product Could Be Piped to Edge of Municipalities and Sold at a Profit to Major Industries Instead of Residences

In almost every county in Texas wells are being drilled for the purpose of finding oil or water. Many of these wells are located far from populous centers, if, indeed, any part of our great State can be so regarded. Most of these wells will be found non-productive, oil may be struck in some, water in others, while a few may find gas. Gas is usually an indication of oil, therefore, finding gas will cause the firm, corporation or individual making such discovery, to become hopeful that further exploration will locate valuable oil he is always seeking. He will, after such discovering of gas, immediately secure additional leases, purchase drilling material, contract to drill more wells, and, in every way possible, and always at great expense, proceed with his exploration for oil. One well follows another, and gas only is developed. His investment in wells still remains—he does not care to destroy the gas, nor has he ever wilfully done so. In time his hopes are shattered, his money is all gone and he has only a number of gas wells to show for his outlay. All the casing must be left in the holes, and, so far as earning capacity is concerned, the investment is absolutely worthless.

He will then, as a last resort, endeavor to find a market, declared Dr. M. P. Cullinan in a paper before the South Central Gas Association convention. The wells are often located far from railroads, and usually at considerable distance from a city or town. He cannot create a market and he is, therefore, compelled to seek a franchise in the nearest city or town, hoping that after his franchise has been secured he can interest sufficient capital to build lines with which to carry his fuel to market. He goes before the council in the nearest town, asks permission to carry his mains through the streets and to do such other things as may be necessary to give the inhabitants of such cities the best fuel we have so far discovered. He is usually greeted very cordially, is assured that the city wants gas, and that he will have no trouble in securing a franchise. He now adds to his expense by hiring the best attorney to be found, who draws up a franchise that complies with the law in and from all angles, and that is fair to both seller and consumer. This franchise is brought before the city administration to be examined and who, in turn, place it in the hands of their attorney, copies being furnished to each member of the council or commission, the city engineer, and a few copies submitted to the "friends" or "advisers" of the above mentioned administration. These copies are carefully examined by all those to whom shown and are brought before the council or commission at its next regular meeting, after hav-

ing such changes as each particular individual wishes to make inserted in what is virtually a new draft of the franchise. Each councilman or officeholder desires to pose before the public as the "watch dog" of the city; prices are cut in both domestic and commercial gas, impossible conditions are imposed and the final play for Mr. Gas Man is to either withdraw entirely or accept a franchise under which it would be impossible to operate successfully. Yet, his troubles are only starting. If he accepts this franchise, he must now put up a bond that he will begin work on or before a certain date, which will be in size and proportion to the greed of the most selfish member of the administration. His friends come to his rescue and put up the bond. He accepts the franchise. Having the wells and the so-called franchise, he then starts out to secure finance with which to build his lines. The financiers whom he first seeks usually know nothing about the gas business. Being cautious men, they take the matter up with financiers in other parts of the country who are familiar with the gas business in all its phases; who have learned by experience, perhaps, that the gas game (it should not be called "business") is one of the most hazardous they know anything about. Then, if he can succeed in securing enough borrowed collateral to cover the cost of building a line, he goes ahead with the work. Handicapped for money, it is only to be expected that he puts in inferior material in the poorest and cheapest manner possible. For all the money he obtains, he has to pay an unusually high rate of interest.

The Demand for the Bargain Rate

The potential capacity of the wells, the area of the field from which the gas is obtained, the depth at which it was found, the quantity and thickness of the sand are not understood by the financier—it did not enter into the deliberation of the council who granted the franchise.

Entering the city he hopes to supply, he starts to work tearing up the streets, injuring the water mains, puncturing a sewer now and then. He is unable to cross certain streets; he is enjoined on every corner, and if gas is permitted to escape and a fire or explosion follows, the courts hold him responsible for all damages that may result, but he keeps struggling on and finally proves to the few people who buy his gas that they couldn't live without it—at their price. The city administration changes, and about the first thing the new crowd starts is a fight for cheaper gas.

The above is a true picture of the gas man's troubles when he caters to the domestic trade only. What a different story would have been told had this man brought the gas to the city limits, told the big industrial concerns located usually at the edge or just outside of the city, that he had the fuel they wanted; that he could sell it at a price that would insure them a saving of from 10 to 15 per cent for fuel per se; that he could and would increase their efficiency 25 per cent; that all they had to do was to lay a short carrying line from his main line to their plants to secure the above advantages. His contract submitted to these men would be gone over by the manager of the plant, who in turn would present it to his attorney for legal instructions; would ask of the gas company a reasonable guarantee of service, and when returned it would be exactly as when it was turned over by Mr. Gas Man. He would thus avoid the necessity of laying lines throughout the city; he would be comparatively safe from damage suits; he would be dealing with business men—not politicians; he would require no complicated accounting system, as he would have scarcely enough for one good man to attend to who would look after transportation, accounting and distribution of the gas. It is true he would not receive as much for the gas per thousand cubic feet, as if selling to domestic consumers, but, on the other hand, he would save at least one-half of the investment he would be required to make if he carried the domestic load; he would be saved 50 per cent in the depreciation of his lines alone and he would make the further saving of another 20 per cent in fittings, meters, service lines, etc., all or nearly all of which is valueless after the wells play out.

Salvation in the Industrial Field

Twenty-two years' experience in the gas business in Texas and Louisiana, together with the observations and experience of friends in the same line of work, has convinced the writer that the gas we have been conserving for the use of the general public—I refer especially to the domestic trade—for all these years has been conserved at an actual loss to the producing and distributing companies who have been catering to that trade.

Our attention should hereafter be turned to the industrial consumption, and avoid the trials and troubles we have heretofore had, believing as I do that we should be paid a reasonable compensation for our service, for our investment, and for our commodity. Until such time as the domestic consumer appreciates and is willing to pay for the gas, we should be less profligate in throwing our own and our stockholders' money in city service lines, meters, etc., and sell our product where it will bring at least a reasonable return on the money invested. Let us sell where we can get quickest returns. The gas, like the traveler pigeon, will be soon a memory only. Why prolong indefinitely a steadily failing industry? It is unfair to the people to have them go to the expense of purchasing stoves and appliances, install lines, etc., as it is to the company selling domestic fuel. It is unfair to the manufacturers of gas. Let's save gas, gas lines and our stockholders' money.

U. G. I., Philadelphia, Pa., Loses $10,000 Daily

The U. G. I. loses $10,000 a day in operating the city's gas works. As the result of the strain upon the company's finances, President Samuel T. Bodine appealed to Mayor Moore. They discussed the prospect of permitting the company to retain the new B.t.u. gas standard in use temporarily. The permit expires Jan. 1.

"It appears from Mr. Bodine's statement that the U. G. I. needs relief," said Mayor Moore. "It is now losing $10,000 a day, which probably will eat up the company's annual payments to the city of $3,000,000. The company makes these payments to the city under its agreement of 1897. The situation as Mr. Bodine presents it is serious, and I suggested he put the matter in writing so the public can understand it."

End of Fiscal Year Shows Loss of Alien Laborers

We read every day in the newspapers about the vast influx of aliens, conveying a general impression that this country is receiving too much immigration.

Yet the fact is that during the fiscal year ending June 30, 1920, *more aliens went back to Europe to stay* than came here from Europe with the intention of *remaining* in America. An analysis of the United States Bureau of Immigration report for this period indicates a loss of European aliens of 10,138; for although 246,295 persons were admitted from Europe as permanent residents, no less than 256,433 departed for Europe to remain there.

The net increase in population was small, amounting to only 193,514 as the total admissions permanent and transient from *all countries* were 621,576, while the departures were 428,062; in other words, for every three who entered, two departed from America.

Further analysis by sex, indicates that while the increase in the total male immigration was 58,268, the increase in the female was far more than twice as much.

Persons admitted and leaving are classified according to their permanence of residence, and analysis of these figures shows that the total increase in our alien *male* population which can be classed as *permanent* is only 9,877.

Checking up the Government figures by occupations, it is found that we gained 9,063 professional people, such as clergymen, teachers, engineers, etc. We gained skilled workers to the number of 49,185, including a wide range of occupations such as barbers and blacksmiths, carpenters and clerks. Yet there was a loss of 2,000 among the miners.

In the miscellaneous group the decrease was 41,254 persons and as the common or unskilled laborers come under this heading, it is noteworthy that there was a loss of 102,000 laborers and a gain of 12,500 farm laborers and 31,000 servants.

Balancing admissions and departures by States, it was found that five industrial States—Illinois, Ohio, Pennsylvania, Indiana and West Virginia—suffered a loss in population, because more aliens departed than arrived.

Only fifteen States received more than 5,000 immigrant aliens.

An increase of 49,990 is found among six races that usually enter into needle trades, common labor and trading: these are Armenian, Bohemian, Hebrew, Italian and Syrian.

Mexican immigrants increased more than 57,000 but that was largely admitted under special regulations to meet agricultural needs of the border States.

The Portuguese and Spanish immigration increased about 30,000.

A group of races that show an increase of 129,548, are Dutch, English, French, German, Irish, Scandinavian, Scotch and Welsh—races that do not furnish a large proportion of our common labor.

Further analysis shows that *among twelve races that furnish the bulk of the common labor supply in our basic industries* such as the Jugo-Slav, Magyar, Greek, Finnish, Lithuanian, Polish and Roumanian, there was a *decrease* of more than 90,000.

This summary is made from the bulletin based on Government statistics by the Inter-racial Council, New York.

Cutting Operating Costs in Power Plants

Methods of cutting down operating costs in power plants are explained by George W. Hubley, consulting engineer and power plant specialist of Louisville, Ky., as follows:

"The high cost of living as referring to the expense of operating a power plant is usually conceded to be the result of increase in cost of labor, fuel and supplies. To a certain extent this is true, but the real cause of the excessive cost of power plant operation, I believe, is due to the general condition existing in the average steam power plant, resulting from gross inefficiency in the use of fuel on account of improper or inadequate equipment and methods of firing of the boilers.

"During the past two years I have made a specialty of investigations and periodical inspections of various power plants of a number of clients, and in practically all cases the benefits derived by such attention has proven most gratifying and constructive. I have found that the plan of co-operation with the existing organization of the plant operators, rather than in a capacity as efficiency expert, has brought about the desired economies, of mutual benefit to the owners as well as to the operators of the plants.

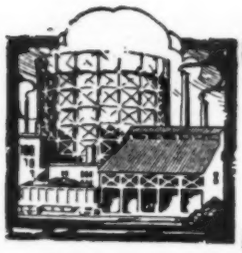
"The method of work has been to give regular service by periodically making inspection of the plants of clients and following same by a report along with suggestions and recommendations for the improvement of existing conditions of operation, and in this connection I have found that usually the fundamental cause of the waste of fuel has been due to many leakages that usually exist in the average power plant, as follows:

1. Leakage of steam and hot water from defective piping and fittings.
2. Losses due to radiation on account of exposure of piping and other heating surfaces without any insulation.
3. Loss of coal on account of failure to return condensate from heating system and other steam translating devices.
4. Losses due to excess air through the boiler settings.
5. Losses caused by improper draft conditions.
6. Losses due to excess temperatures of flue gases which are permitted to be lost up the smokestack.
7. Improper conditions of firing of boilers and consequently poor combustion in the furnace.

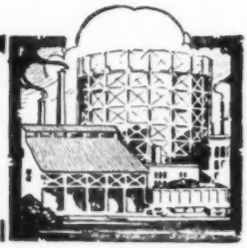
"Many other unfavorable conditions in the average steam power plant might be cited as stop-loss measures, but no general rules can be applied to meet the condition of all plants, as it is found that power or steam heating plants vary in their characteristics just as individuals.

"Again similar to the individual who needs treatment, the successful results depend largely upon the effort and co-ordinated desire of the operators of the plant to give to us their earnest and undivided co-operation.

"Leading executives are in a receptive mood and willing to pay for honest, constructive efforts by their employees that will result in savings in the power plant costs of operation, and in this regard we have found our service of value in assisting loyal employees to better serve their employers."



NEWS OF THE GAS INDUSTRY



Six Gas Corporations Granted Charters

W. A. Letson and H. H. Barrett of Brownswood, Texas, and S. A. Boorstin of Tulsa, Okla., are the incorporators and directors of six gas corporations with an aggregate capital stock of $1,830,000, which have been granted charters by the Secretary of State. The corporations will operate in the counties of Brown, Erath and Comanche. The various corporations are as follows: Central Texas Pipe Line Company of Brownwood, capital stock $1,000,000; Brownwood Gas Company of Brownwood, capital stock $350,000; Stephenville Gas Company of Stephenville, capital stock $150,000; Dublin Gas Company of Dublin, capital stock $100,000; De Leon Gas Company of De Leon, capital stock $80,000; Comanche Gas Company of Comanche, capital stock $150,000. The purpose of the corporations is to supply cities and towns gas for lighting, heating and power.

75 Cents Highest Gas Rate in Oklahoma

The first 75-cent gas rate and the highest so far in the State of Oklahoma, has been granted by the Corporation Commission to the Walters Gas Company, practically in the heart of the gas field. In this, however, there is a 5 per cent discount for prompt payment of bills. The industrial rate was fixed at 50 cents. The commission was presented with petitions showing that such a rate was acceptable to the business organizations of the city.

Another order issued by the commission granted a temporary rate of 40 cents for domestic and 20 cents for industrial gas to the McAlester Gas & Coke Company. This application had been with the commission for some time. The industrial rate had been 10 cents and the State prison was one of the biggest users of gas on this rate.

An increase in gas rates was also granted to the Bristow Gas Company. The old rates were 35 cents for domestic and 25 cents down to 15 cents for industrial. The new rate is 60 cents for the first 100,000 ft. and 45 cents for all over that.

Nine Gas Companies Allowed Increased Rates

Nine gas companies which last Nov. 3 sought permission to increase their rates, have been allowed in a decision of Federal Judges Ward, Hough and Mayer a rate of $1.10 a thousand cubic feet for gas, effective from Dec. 1.

A profit of 10 cents a unit of a thousand cubic feet was considered "reasonable" by the court, which directed the return of excess rate money collected and in the hands of the special master to the company on condition that they file a bond of not more than $500,000.

The companies are the Standard Gas Light Company of New York, the New York Mutual Gas Light Company, the Northern Union Gas Company, the Central Union Gas Company, the East River Gas Company, Long Island City; the New Amsterdam Gas Company, the Brooklyn Union Gas Company, the Flatbush Gas Company and the Newtown Gas Company.

Cuts Off Industrial Consumers

The Arkansas Natural Gas Company, through circulars, has served notice on industrial consumers that all contracts will be terminated Dec. 28, and after that date gas will be supplied only when there is a surplus above the needs of the domestic consumers.

The decision not to renew the contracts, it is said, is to relieve the company of any legal obligation to supply gas to industrial consumers.

THE SOUTHERN COUNTIES GAS COMPANY has applied to the Railroad Commission for authority to issue $1,000,000 ten-year collateral trust bonds, the proceeds of which are to be used to make extensions, additions and improvements to the company's system.

Redlands First City in California to Operate Own Gas Plant

Redlands will be the first city of prominence in California to operate its own gas plant. The Redlands board of city trustees and officials of the Citrus Belt Gas Company have settled their fight over the question of gas service. Provision is made in the agreement whereby the city may come into absolute possession of the property of the gas company.

In pursuance of an operating agreement drawn up between the city and the public utility, City Engineer Hinkley has assumed the management of the Redlands plant. That part of the gas system supplying the city of San Barnardino and surrounding territory is not affected by the arrangement, it is stated.

Due to financial difficulties the Citrus Belt Gas Company has had difficulty in procuring necessary supplies of fuel oil with which to supply the city of Redlands, the city having been practically without gas for a period of a week. Appeals were made to the State Railroad Commission to bring about some solution to the situation. Assistant Engineer H. L. Masser was assigned to investigate for the commission, and was instrumental, it is said, in bringing about a condition permitting the city to carry out its negotiations for acquiring the property.

Tax Law Is Upheld

The West Virginia Supreme Court of Appeals in a recent decision upheld the constitutionality of the act of 1919, placing a privilege tax upon oil and gas piped for a distance of more than ten miles.

Under the decision the tax cannot be applied to interstate shipments of oil and gas must be collected wholly on shipments within the State.

The suit was instituted by the Eureka Pipe Line Company and the United Fuel Gas Company against Walter F. Hallanan, State tax commissioner.

Sales Campaign Proves Successful in Disposing of Water Heater

The results that can be obtained from an aggressive sales and advertising campaign by a company, no matter what its size may be, is clearly demonstrated by the record made by the Southern Public Utilities Company of Greenville, S. C., of which A. F. Timberlake is superintendent of the Gas New Business Department. Although there are only 2,775 meters in use there are 756 Ruud Automatic Water Heaters installed, and of this number 173 have been sold during the first nine months of this year.

The extent to which gas is used in the homes is shown by the fact that the population under the recent census is only 23,127, and of this total it is estimated that there are at least 4,625 negroes.

The amazing number of Ruud water heaters that are in use is the result of the progressive methods that Mr. Timberlake, working with the representative of the company, uses. Mr. Timberlake in his work is assisted by Mrs. Harrison, as floor saleswoman. Mr. Ellis is general manager of the company which Mr. McDonald is superintendent of the gas department.

DEMONSTRATION LAYOUT USED BY GREENVILLE GAS COMPANY. LEFT—E. D. BREWER, DISTRICT MANAGER, RUUD MANUFACTURING COMPANY. RIGHT—A. F. TIMBERLAKE, SUPERINTENDENT, NEW-BUSINESS DEPARTMENT, SOUTHERN PUBLIC UTILITIES COMPANY, GREENVILLE, S. C.

Difficult Engineering Job of Righting Huge Gas Holder Completed

The huge 2,000,000 cu. ft. gas holder erected by the Southern Counties Gas Company in the harbor district, Long Beach, Cal., is filled for the first time since it was erected.

Two months ago engineers of the Southern Counties Gas Company were confronted with one of the most ticklish engineering problems on record.

During the course of construction the huge 2,000,000 cu. ft. gas holder had sunk several inches into a soft foundation, causing the huge mass of steel to lean several degrees to one side. Before the holder could be used and filled, it had to be tipped back to the upright.

The engineers proved equal to their task and the holder is now completely filled for the first time. The huge holder is 176 ft. high, 146 ft. in diameter, and cost $200,000.

The water tank, which serves as a sea land anchor for the container and which is the first compartment, holds 4,000,000 gal. of water, about 36,000,000 pounds, or 1,800 tons.

The holder was finally straightened in the following manner: When it had completely settled, the inner cups or compartments were raised and kept in place by powerful 100-ton and 50-ton hydraulic jacks. Simultaneous with this process the outer shell was gradually elevated with large wedges placed one under the other. Every time the holder was raised, quantities of concrete were poured underneath it, until it was finally made to stand on a level foundation.

Construction of the holder was started eighteen months ago. It was built by the Stacey Brothers Construction Company of Cincinnati, Ohio. The contract for the job was let March 17, 1919, but due to labor troubles and material shortages, work was delayed.

American Engineering Standards Committee Elects Officers

At the annual meeting of the American Engineering Standards Committee held in New York on December 4, A. A. Stevenson, a representative of the American Society for Testing Materials, was re-elected chairman for 1921, and George C. Stone, a representative of the American Institute of Mining and Metallurgical Engineers, was re-elected vice-chairman.

The American Engineering Standards Committee has recently been enlarged by the representatives of four additional member bodies. These bodies and their representatives are:

United States Department of Agriculture—T. H. McDonald, chief, Bureau of Public Roads.

United States Department of Interior—O. P. Hood, chief mechanical engineer, Bureau of Mines.

Gas Group, consisting of American Gas Association, Compressed Gas Manufacturers' Association, International Acetylene Association—A. Cressy Morrison, vice-president, Compressed Gas Manufacturers' Association.

American Electric Railway Association—Official representative not yet designated.

There are now forty-seven members of the committee, representing seventeen member bodies. Twenty-four organizations in all are represented on the committee, as three of the member bodies are groups of organizations.

For October combined net earnings of Massachusetts gas companies available for dividends were $372,572 an increase of $33,005 compared with the same month of 1919

Handling Publicity at the 1920 A. G. A. Convention

The 1920 convention of the American Gas Association in the Hotel Pennsylvania, New York City, set a record in the amount of publicity obtained in the newspapers of the country. At the time this article was written, four days after the convention, there had been received at association headquarters approximately forty columns of published matter and this is believed to represent but a third of the amount actually obtained, in view of the fact that daily accounts of the convention were furnished to a hundred or more newspapers outside New York City by the Associated Press, special syndicate writers and other news agencies.

The interest manifested by newspaper editors in this national gathering of gas men shows as nothing else does that the public is interested in the gas business and its problems. This is due in no small part to the work of the emergency committee and its thousands of participants in all parts of the country who have co-operated with their local editors in telling the public the facts. Gas consumers everywhere know that an emergency exists. Better still, their editors know it. Hence the interest in the convention.

It may be said, however, that the methods employed in dealing with reporters, the manner of receiving them and conducting them about the hotel, the system of supplying copies of addresses and of giving them every assistance possible is also responsible for the publicity success obtained. This duty fell upon Snowden H. Summers, director of the emergency committee, and Charles W. Person, secretary of the publicity and advertising section. A definite schedule of publicity was worked out previous to the convention and this was carefully followed throughout. Every reporter who called at the hotel was directed either to Mr. Summers or to Mr. Person, who took him in charge and gave him the significant news happenings of the day and then directed him to the exhibition on the roof garden.

A week before the convention, a copy of the tentative program was mailed to every editor in the metropolitan district and this was followed at intervals by three articles setting forth the importance of the convention to the gas man and the gas consumer. At the same time, the Merchants' Association of New York was communicated with and they supplied the newspapers with daily notice of meetings which were printed in the papers under the title of "To-day's Events."

Monday morning early a dozen or more reporters were on hand to prove that the advance publicity had made good. They were given the most important points covered in the manufacturers' session that morning, were led to the roof to look over the exhibition and were told to be on hand the following morning when copies of Mr. Cortelyou's address would be available. There had already been mailed to the newspapers a photograph of President Munroe, together with a short biographical sketch, which was released for publication on Tuesday afternoon. These had been forwarded to New York by B. J. Mullaney, of the Peoples Gas Light & Coke Company, who furnished the Chicago newspapers with the same article subject to release on the same day.

On Tuesday morning when Mr. Cortelyou was delivering his address several reporters had already called at the hotel, had been given advance copies of the address and had returned to their offices in order to get their stories written in time for the afternoon papers. The other big news event of that day was the address made by Mr. Welch and since he spoke extemporaneously no manuscript of his speech was available. It became necessary, therefore, for Mr. Person to attend the session and make hurried notes of what he said while Mr. Summers corralled the reporters in the office of the emergency committee.

Wednesday morning's outstanding event from the viewpoint of the newspaper man, was Mr. Gadsden's address. Again there was no manuscript available but this did not serve to delay the reporters present, who were given a statement for publication before Mr. Gadsden had finished. At the banquet Wednesday evening copies of Mr. Cortelyou's address were distributed to the reporters who occupied a table assigned to them.

The most difficult task occurred Thursday morning when Judge Ransom made his interesting and significant address. It was impossible to secure advance copies of this for the newspaper men but two hours after Judge Ransom finished a twelve-page account of his address was on its way by special messenger to the several newspaper offices and other copies were distributed to reporters for the morning newspapers who were waiting for it but who in the meantime had lost no opportunity in interviewing manufacturers on general business conditions within the industry.

At no time during the convention did reporters find it necessary to attend the general sessions, take notes and interview speakers. The information they desired was promptly furnished to them by Mr. Summers or Mr. Person and they were thus able to get away from the hotel in time to catch all editions of their papers and to write articles of more than half a column in length.

Gas Machinery Company Awarded Contract for Water Gas Set

The Gas Machinery Company of Cleveland, Ohio, have been awarded contract by the Canton Gas & Electric Company of Canton, Ill., for a new five-foot double superheater carburetted water gas apparatus, which will be erected in a new building adjoining the retort house.

The water gas set is to be complete with all auxiliary equipment and the gas company will use this new water gas plant in conjunction with its present coal gas works, to supply the increasing demand for gas in the city of Canton.

E. H. Negley, manager of the gas company, has the new building nearly completed so that the water gas plant can be installed during winter, and Mr. Negley is keeping abreast of the times in providing for the increased demands on his plant in order to continue the good service that his customers have been receiving.

Gas Statistics

Recent reports show that 300,000,000,000 cu. ft. of artificial gas are consumed annually by approximately 45,000,000 persons in the United States, 70 per cent of which is produced by the so-called water gas process, in which gas oil, a petroleum product, is an essential. For this approximately 1,100,000,000 gal. are required, also 9,000,000 tons of bituminous coal, 2,000,000 tons of anthracite and 1,500,000 tons of coke.

BOSTON CONSOLIDATED GAS COMPANY'S November output was 604,251,000 cu. ft., an increase of 4.6 per cent, compared with the corresponding month a year ago.

Safety in Motor Vehicle Operation and Maintenance

The 8,000 industrial organizations, trade associations, and governmental agencies comprising the National Safety Council have just undertaken the biggest job ever attempted by the council during the eight years of its existence—to teach the fundamentals of safe driving and motor vehicle maintenance to every motor truck and passenger car driver employed in industry, whether or not his employer is a member of the council.

The purpose of the undertaking is threefold:

First, to reduce so far as possible the number of fatalities resulting from automobile accidents which now approximate 15,000 a year—one person is killed by an automobile every thirty-five minutes.

Second, to save for industry and the public at large the millions of dollars lost each year through property damage resulting from automobile accidents—this loss amounting to $500,000 a year in a city of little more than half a million population.

Third, to save for industry some of the many millions of dollars now paid out annually for compensation, medical attention, lost time, and damage for personal injuries resulting from automobile accidents.

The council, with the aid of automobile manufacturers, automobile driving instructors, automobile traffic managers, repair men, and the representatives of practically every industry interested in any phase of the automobile accident problem, conducted a nine months' study of the causes of accidents and means of eradicating those causes. This study has just been completed and the findings published by the council in the form of a set of twelve safety bulletins and lessons for automobile drivers.

The lessons, covering every phase of motor vehicle operation and maintenance which enters into the accident problem, will be distributed by the national council through its local councils, through automobile schools, automobile clubs, automobile insurance companies, and through every other means which presents itself.

A resume of the twelve safety lessons for automobile drivers will demonstrate how thoroughly the problem has been covered by the National Safety Council.

Lesson No. 1 deals with brakes and braking. Lesson No. 2 deals with lubrication and rules of the road. Lesson No. 3 discusses the necessity for and methods of keeping the steering mechanism in perfect condition. Lesson No. 4 covers the engine. Lesson No. 5 treats of that delicate and, with those unskilled in its adjustment, troublesome mechanism, the carbureter. Lesson No. 6 takes up the problems of the ignition system. Lesson No. 7 explains the construction, operation and maintenance of the cooling system of the automobile engine, and what is necessary to be done in connection with it. Lesson No. 8 is a thorough analysis of clutch, transmission and differential. Lesson No. 9 is a discourse on the springs, frame, loading and tires of the automobile. Lesson No. 10 treats of headlight laws and the hazards of blinding headlights. Lesson No. 11 deals with safe and efficient driving in general, and with the necessity of proper respect for the traffic laws and co-operation with the police. Lesson No. 12 impresses on the driver the necessity of complete observance and understanding of all the foregoing by giving him the latest statistics showing the deaths due to automobiles, and emphasizing the way he can help in cutting down this staggering record by utmost care and vigilance in his own driving. It also gives the qualifications prescribed by the National Safety Council for a safe and competent driver. The council is exerting every influence to have these qualifications made the basis of laws for examination and licensing of drivers in every State in the Union.

Aside from the saving of lives and the saving of property and claims for damages, the scope of these lessons must appeal to truck owners because the lessons, if observed by drivers, will prevent mechanical deterioration which is responsible for heavy losses to truck operators. A report before the Ninth Annual Safety Congress of the National Safety Council recently brought out the fact that approximately 15 per cent of the average truck operator's machines are always in the repair shop, as against 2 per cent of railroad rolling stock.

GAS & ELECTRIC SECURITIES COMPANY, New York City, declared a regular dividend of one-half of 1 per cent in cash on the common stock and the dividend payable in common stock at par was increased from ½ to 1 per cent monthly to ¾ of 1 per cent monthly, or to the rate of 9 per cent a year, both dividends being payable Jan. 1, 1921.

California Commission Appoints Gas Administrator

The California State Railroad Commission has taken over complete supervision and control of the gas shortage situation in southern California through the issuance of a sweeping order announcing the appointment of H. L. Masser, the commission's gas engineering expert, as gas administrator and stringent rules and regulations under which the available supply of gas to domestic, commercial and industrial consumers is to be distributed throughout the coming winter.

This action is taken, the order sets forth, because of evidence in the hands of the commission that a serious gas shortage is threatened, if not already being experienced, in this section of the State requiring prompt emergency relief pending final settlement of questions of supply and distribution as between the various utilities serving this district, now under investigation by the commission.

"Due to difficulties and complications encountered in the distribution and allocation of the available natural gas supply between the various distributing companies," reads the order, "it appears that the public need can best be served and most satisfactory service rendered by placing in direct supervision and control of the gas supply a representative of the commission to act under certain definitely established rules and regulations for the division of the gas between the different utilities, quality of gas to be served and the priority of gas usage."

Other provisions of the order prescribe a uniform heat content of the mixed gas served by the Los Angeles Gas & Electric Company and the Southern California Gas Company, which may not be lowered except by permission of the commission, and an order is directed to the Southern California Gas Company to supply natural gas to the Southern Counties Gas Company's Long Beach district in accordance with agreements which this company has formally protested against before the commission. The rights of the Los Angeles district to be served with natural gas on a parity with other districts in southern California is also placed in the hands of the gas administrator to regulate.

Mr. Masser will give his entire time and attention to the carrying

out of the purposes of the commission's emergency order.

Besides the three distributing companies mentioned the Midway Gas Company, supplying wholesale gas, also comes under the purview of the order.

10-Cent Gas Rate Increase for Fort Wayne

The household gas rate in Fort Wayne, Ind., has been increased 10 cents a thousand cubic feet by an order of the State Public Service Commission. The charges will be as follows:

	Per Thousand Cu. Ft.
First 10,000 cu. ft.,	$1.35
Next 20,000 cu. ft.	1.25
Next 20,000 cu. ft.	1.15
Next 150,000 cu. ft.	1.05
Next 200,000 cu. ft.	0.75

Minimum monthly charge per meter, $1.

These charges, the order states, will be subject to a coke and oil adjustment clause for consumption over 200,000 cu. ft. per month which provides for an increase or decrease of 1 per cent per 1,000 cu. ft. or an increase or decrease of 0.003 cent in the cost of oil per gallon from a base price of 7 cents and for an increase or decrease of 1 cent per 1,000 cu. ft. of all over 200,000 cu. ft. a month for each increase or decrease in the price of coke 60 cents per ton over or below a base price of $9 a ton. This clause materially affects industries of Fort Wayne and other large consumers of gas.

Authorization of New Rate Schedule

The Public Service Commission has authorized the Greencastle (Ind.) Gas & Electric Company to increase gas rates from a schedule ranging from $1.65 a 1,000 cu. ft. of gas to $1.25, with a 75-cent monthly minimum, to a new schedule ranging from $1.85 to $1.45, with a $1 minimum. The rates, says the order of the commission, will yield the company no return at all on investment.

The company has agreed to put in a pressure booster to overcome low pressure, said to be due to clogged and too small service pipes.

Illinois Towns Granted Increased Rates

Increased gas rates in Peoria and Averyville, East St. Louis, Collinsville, Edwardsville, Belleville and Murphysboro have been granted by the State Public Utilities Commission.

Rates in Peoria were increased 20 cents a thousand by the order and rates in three towns of the East St. Louis district raised varying amounts ranging from 25 to 50 cents a thousand feet. The new rates per thousand in Peoria and Averyville are as follows: $1.30 for the first 1,000; $1.20 for the next 20,000; $1.15 for the next 50,000; $1.05 for the next 300,000, and $1 for all over 400,000 ft.

Big Gas Strike

Gas has been struck in a well drilled by the Richhill Oil & Gas Company on the Frank Durbin farm in Richhill Township, Greene County, Pa. It is estimated that the new strike is making 1,000,000 cu. ft. a day. A small showing of gas was found in the "Big Injun" sand and was drilled deeper. The company is composed largely of Waynesburg men.

New Bedford Light Co. Seeks Increases

Officials of the New Bedford Gas & Edison Electric Light Company, New Bedford, Mass., have applied to the Department of Public Utilities for authority to increase the price of gas in New Bedford from $1.35 to $1.60 and in Fairhaven from $1.40 to $1.65. They admitted that an increase to $1.50 would probably tide them over present difficulties.

Gas Securities

Gross sales of securities of the Byllesby managed electric and gas properties during October aggregated $708,000 par value. Of this amount $484,000 was represented by preferred stock and $213,200 of various bonds, notes, etc. There were about 1,150 separate sales.

Stockholders' Meeting

At the annual meeting of the stockholders of the Cambridge Gas Light Company, Vinton W. Mason was re-elected treasurer of the board of directors and Karl S. Barnes was again chosen clerk. At the next regular meeting of the board a president and treasurer will be elected for the coming year.

Fall River Gas to Issue Stock

The Public Utilities Commission authorized the Fall River Gas & Electric Light Company to issue $700,000 new captal stock, $100 par, proceeds to be devoted to paying off floating indebtedness resulting from new construction and alterations.

Lone Star Gas

Stockholders of the Lone Star Gas Company, Fort Worth, Texas, held a special meeting on Dec. 10 for the purpose of increasing the capital stock from $10,000,000 to $11,000,000 and to provide for the issuance of the additional stock.

Personal Notes

T. M. Ambler, who for many years was commercial manager of the Brooklyn Union Gas Company, has organized and is now president of the Magnesium Products, Inc., manufacturers of the Nowater Handwash, the Afterglow Satin Finish Polish and the Nonoh Decarbonizer. Mr. Ambler was a director in the National Commercial Gas Association, chairman of the membership committee and also a member of the educational committee.

Colonel Oscar H. Fogg, secretary-manager of the American Gas Association, has left for Chicago and will spend one week out of every month in Chicago with President Munroe.

Louis R. Parkerson, who was formerly connected with the electrical department of the Consolidated Gas Company of New Jersey, Long Branch, N. J., has during the past year been placed in charge of the gas distribution system, succeeding Mr. Irving Black, deceased.

Frank Mason, manager of the industrial sales department of the North Shore Gas Company, Waukegan, Ill., has accepted a position as manager of the Grand Haven Gas Company, Grand Haven, Mich. Mr. Mason, though a young man, has been long connected with gas companies and is well fitted to fill the responsible position as manager of the Grand Haven company.